

Application Number 10/797,911
 Amendment in response to Office Action mailed April 12, 2007

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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A gesture-based input device for a user interface of a computer comprising:

two pairs of electrodes scalable for any screen size, wherein the electrodes are arranged to capture a quasi-electrostatic field surrounding a user in order for the user interface to provide different options or tasks to be selected by the user,

a platform for supporting the user,

a quasi-electrostatic field generator source connected to the platform; and

a circuitry connected to the electrodes for determining, relative to each of the electrodes, a position of a part of the user being closest to electrodes,

wherein the position of the part of the user in each dimension of the electrodes is determined based on a relation of four voltage signals of the circuitry, respectively, each voltage signal indicating a distance between the part of the user and the respective electrode,

whereby the position within the electrode closest to the part of the user is determined without any calibration of a sensor system, and

wherein

$$V_H = \frac{|U_O|_L}{|U_O|_R}$$

$$V_V = \frac{|U_O|_B}{|U_O|_T}$$

is utilized to cancel an environment effect and remove a calibration process before use of the input device by the user, and U_O is the output signal from the correspondent electrode.

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Claim 2 (Cancelled).

Claim 3 (Currently Amended): The gesture-based input device according to claim 1 ~~or~~ 2, usable to provide flexibility for the user to define a hand movement range, wherein

$$X = \frac{V_H}{V_{H \max} - V_{H \min}} \cdot L_X$$

$$Y = \frac{V_V}{V_{V \max} - V_{V \min}} \cdot L_Y$$

also allow the user to move forward and backward freely before a screen in a range of around 1 meter.

Claim 4 (Currently Amended): The gesture-based input device according to claim 1 2, wherein, when the determined position of the part of the user is left substantially unchanged for a predetermined period of time, this is interpreted as selecting an option or task offered to the user through the user interface represented by the quasi-electrostatic field.

Claim 5 (Currently Amended): The gesture-based input device according to claim 1 ~~or~~ 2, wherein a sensor field comprises a screen and a cursor moved and positioned according to the movement and position of the part of the user.